Appendix B – Washington DNR Species Selection Matrix

Association	Common Name	*Scientific name*	Listing status	Include in planning? (Why)	Currently T/E	Criteria 1 - Probability of Federal listing	Criteria 2 - Occurs in planning area	Criteria 3 - Dependant on submerged habitat	Criteria 4 - Vulnerability to WA DNR activities	Criteria 5 - Critical benefit to species from coverage	Criteria score (sum 3, 4, 5)	Global Rank	WA State Rank	Covered in WA HCPs (#)	In Existing Recovery Plans?	Habitat Utilized	WA Regions	WA Priority Area/s	Habitat Information	Special Habitat	Food Habits	Threats
Beetles	Columbia River tiger beetle	*Cicindela columbica*	State C	Yes	No	M	Yes	1	1	1	3	G2	SH	No	No	R	Eastern, North Central, South Central, Southwest	Any occurance	River sandbars	1200 to 1550 feet		Loss of riparian habitat
Cods	Pacific cod	*Gadus macrocephalus*	State C	Yes	No	M	Yes	3	3	3	9	G4	S2, S3	No	No		N Puget Sound, Coastal	Breeding areas, regular and regular large concentrations		soft gravel, 12–549 meters	Piscavore	pollution, oil shipping accidents, overfishing
Cods	Pacific hake	*Merluccius productus*	Fed C, State C	Yes	No	H	Yes	3	3	3	9	G5	S2, S3	1	No	MP	N Puget Sound, Coastal	Breeding areas, regular and regular large concentrations		Surface to bottom of open sea to 500 fathoms; occasionally inshore waters		
Cods	Walleye pollock	*Theragra chalcogramma*	State C	Yes	No	M	Yes	3	3	3	9	G5	S2, S3	No	No		N Puget Sound, Coastal	Breeding areas, regular and regular large concentrations				
Dragonflies and damselfies	Lynn's clubtail	*Gomphus lynnae*	None	Yes	No	M	Yes	3	3	3	9	G2	S1	No	No	R, L	Eastern WA		Found in sandy to rocky, slow-flowing rivers; adults forage among shrubs.	eggs broadcast in water, larvae burrow in mud	Invertivore	pesticides entering rivers and dams with accompanying siltation, as well as introduced fish species could threaten.
Frogs	Rocky Mountain tailed-frog	*Ascaphus montanus*	State C	Possible (use sloughs/oxbows)	No	M	Yes	3	1	1	5	G4	S?	No	No	S, FW	Eastern	Any occurrence	clear/cold rocky mountain streams in humid fir, pine, spruce, redwood, maple, alder forests.	Temperature range 5 to 18.5 C	Herbivore, Invertivore	Logging practices that increase water temperatures and siltation; low dispersal abilities may limit rate of recovery
Frogs	Western toad	*Bufo boreas (spp. A)*	Fed Co, State C	Possible (use sloughs/oxbows)	No	M	Yes	3	1	1	5	G4	S3, S4	3	No	FW	State-wide	Any occurrence	permanent or temporary water bodies that have shallow sandy bottoms for breeding. Upland occurance includes desert streams, springs, moist grass/wood/mountain/meadow lands.	Eggs and larvae develop in shallow areas of ponds, lakes, or reservoirs or in pools of slow-moving streams	Herbivore, Invertivore	non-native predatory fishes; loss of habitat; eggs sensitivity to increased levels of UV-B & fungus SAPROLEGNIA FERAX, which may be introduced during fish stocking; habitat fragmentation
Frogs	Red-legged frog	*Rana aurora*	Fed C	Yes	No	H	Yes	3	3	3	9	G4	S4	No	No	L, S, FW	Western WA		marshes, ponds, slow water streams, lake reservoirs, ponds with emergent vegetation. Wooded lowlands/foothills.		Herbivore, Invertivore	habitat destruction/degradation; ecological impacts of introduced fishes and bullfrogs; Declines also have been attributed to global warming, UV radiation, airborne contaminants, and disease
Frogs	Northern red-legged frog	*Rana aurora aurora*	Fed Co	Yes	No	M	Yes	3	3	2	8	G4	S4	No	No	L, S, FW	Eastern WA		marshes, ponds, slow water streams, lake reservoirs, ponds with emergent vegetation. Wooded lowlands/foothills.		Herbivore, Invertivore	habitat destruction/degradation (via development and overgrazing) and ecological impacts of introduced fishes and bullfrogs (Kiesecker and Blaustein 1998, Cook and Jennings 2001). Declines also have been attributed to global warming, UV radiation, airborne contaminants, and disease
Frogs	Cascades frog	*Rana cascadae*	Fed Co, State M	Yes	No	M	Yes	3	2	2	7	G3	S4?	3	No	L, R, FW	Statewide		Wet mountain meadows, sphagnum bogs, ponds, lakes, and streams in open coniferous forests; lakes and ponds with vegetation	2600 to 10000 feet	Herbivore, Invertivore	non-native predatory fishes; loss of habitat; eggs sensitivity to increased levels of UV-B & fungus SAPROLEGNIA FERAX, which may be introduced during fish stocking; habitat fragmentation
Frogs	Northern leopard frog	*Rana pipiens*	Fed Co, State E	Yes	No	H	Yes	3	3	2	8	G5	S1	4	No	L, R, S, FW	Eastern, North Central, South Central, Southwest	Any occurrence	Springs, slow streams, marshes, bogs, ponds, canals, flood plains, reservoirs, and lakes; usually permanent water with rooted aquatic vegetation		Herbivore, Invertivore	habitat loss, commercial overexploitation, and, in some areas, probably competition/predation by bullfrogs or other introduced species
Frogs	Oregon spotted frog	*Rana pretiosa (spp. A)*	Fed C, State E	Yes	Yes	H	Yes	3	3	3	9	G2, G3	S1	4	No	L, R, S, FW	Southwest, Coastal	Any occurrence	Highly aquatic; occurs at the grassy margins of streams, lakes, ponds, springs, and marshes;	Breeds usually in shallow water in ponds or other quiet waters	Herbivore, Invertivore	northern leopard frog and introduced bullfrog, Introduced predatory fishes; loss and degradation of breeding habitat and other human activities that reduce or eliminate lentic shallow water
Frogs	Columbia spotted frog	*Rana pretiosa (spp. B)*	Fed C, State C	Yes	No	H	Yes	3	2	2	7	G4	S4	No	No	L, R, S, FW	Eastern, North Central, South Central, N Puget Sound	Any occurrence	Highly aquatic prefers cold, permenannt water; slow moving streams, rivers, marshes, springs, pools, and the margins of small lakes	Breeds usually in shallow water in ponds or other quiet waters	Herbivore, Invertivore	northern leopard frog and introduced bullfrog, Introduced predatory fishes; loss and degradation of breeding habitat and other human activities that reduce or eliminate lentic shallow water
Gastropods	Newcomb's littorine snail	*Algamorda subrotundata*	Fed Co, State C	Yes	No	M	Yes	3	3	3	9	G1, G2	S1	No	No	MC	Coastal	Any occurrence	coastal environments	rocky shores in the upper intertidal zone		Habitat loss, introduced species
Gastropods	Giant Columbia River limpet	*Fisherola nuttalli*	State C	Possible (Accidental)	No	M	Yes	3	3	3	9	G3	S2	No	Yes	R	Eastern, North Central, South Central	Any occurrence	Cold streams and rivers with cobble, 30 to 100 meters wide; Occurs on diatom covered rocks in the main channels, or rapids	Requires unpolluted, cold, well-oxygenated water with a permanent flow and cobble-boulder substrate;	Scrapper	

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Gastropods	Columbia pebblesnail	*Fluminicola =Lithoglyphus columbianus*	Fed Co	Yes	No	M	Yes	3	3	3	9	G3G4	SZ	No	No	R	Statewide	Any occurrence	Likely the same as Fluminicola Fuscus, aka "Great Columbia River spire snail." Found in Columbia River and major tributaries.			
Gastropods	Great Columbia River spire snail	*Fluminicola columbiana*	Fed C, State C	Yes	No	H	Yes	3	3	3	9	G3	S1S2	No	No	R	Eastern, North Central, South Central	Any occurrence	Likely the same as Fluminicola Fuscus, aka "Columbia pebblesnail." Found in Columbia River and major tributaries.			
Gastropods	Western ridgemussel	*Gonidea angulata*	SC	Yes							0	G3	S1, S2	No	No	S, R			Inhabits creeks and rivers of all sizes and can be found on substrates varying from firm mud to coarse particles			
Gastropods	Pinto (Northern) abalone	*Haliotis kamtschatkana*	Fed C, State C	Yes	No	H	Yes	3	3	3	9	G3	S2	No	No		N Puget Sound, Coastal	Any occurrence				illegal harvest, low-recruitment, habitat loss due to nearshore development,
Gastropods	Olympia oyster	*Ostrea lurida*	State C	Yes	No	M	Yes	3	3	3	9	G2	S2?	No	Yes	T, E	Coastal	Any occurrence, regular and regular large concentrations	low tidelands or estuaries that remain inundated with water during low tide, although they also can be found on the undersides of floats and on pilings			Pollution, non-native species, habitat loss
Gastropods	Rams-Horn Valvata	*Valvata mergella*	None	Yes	No	L	Yes	3	3	3	9	G1, G2	S1	1	No	L						
Ground nesting birds	Harlequin duck	*Histrionicus histrionicus*	None	Yes	No	L	Yes	1	2	2	5	G4	S2	4	No	MC, R			Winters in rough coastal waters, especially along rocky shores or reefs; summering nonbreeders and immatures also occur in this habitat	Nests in hollows within about 30 m of fast-moving rivers and mountain streams on rocky islands or banks, with dense shrubby riparian areas and woody debris; mid-stream boulders or log jams and overhanging vegetation for cover and loafing; Sometimes nests beside mountain lakes and lake outlets. tends to breed in the same area in successive years	Invertivore	habitat degradation in breeding and wintering areas; impoundments and diversions on breeding streams; destruction of food base via pesticides; shoreline development and activities on wintering and breeding areas; disturbance by recreational river users and hikers in breeding areas; over-harvesting of remnant populations
Hawks, Falcons, Eagles	Peregrine falcon	*Falco peregrinus*	Fed Co, State S	Possible	Yes	H	Yes	2	2	1	5	G4	S2	3	No	E, MW, L, R, FW	State-wide	Breeding areas, regular occurrences, hack sites	Open situations, especially where there are suitable nesting cliffs, to mountains, open forested regions, and human population centers. When not breeding, occurs in areas where prey concentrate, including farmlands, marshes, lakeshores, river mouths, tidal flats, dunes and beaches, broad river valleys, cities, and airports.	Often nests on ledge or hole on face of rocky cliff or crag. River banks, tundra mounds, open bogs, large stick nests of other species, tree hollows, and man-made structures	Carnivore	loss of wetland habitat of primary prey, poachers robbing nests, shooting by hunters, and food chain contamination from use of persistent pesticides
Hawks, Falcons, Eagles	Bald eagle	*Haliaeetus leucocephalus*	Fed T, State T	Yes	Yes	H	Yes	2	1	1	4	G4	S4	6	No		State-wide	Breeding areas, communal roosts, regular and regular large concentrations, regularly-used perch trees in breeding areas	Breeding habitat close to coastal areas, bays, rivers, lakes, or other bodies of water with primary food sources including fish, waterfowl, and seabirds .	Preferentially roosts in conifers or other sheltered sites in winter in some areas; typically selects the larger, more accessible trees	Carnivore, Piscivore	habitat loss, disturbance, biocide contamination, decreasing food supply, illegal shooting
Herring	Pacific herring (Cherry Point, Discovery Bay)	*Clupea pallasi*	Fed C, State C	Yes	No	H	Yes	3	3	3	9	G3	S2, S3	No	No	MC, MP	N Puget Sound, Coastal	Breeding areas, regular large concentrations				
Lamprey	River lamprey	*Lampetra ayresi*	Fed Co, State C	Yes	No	M	Yes	3	3	3	9	G5	S1, S2	7	Yes	E, T, MC, S	N Puget Sound, Southwest, Coastal	Any occurrence	Fresh and salt water. Adults are anadromous, feeding in estuaries and at sea and spawning in clear freshwater streams	Ammocoetes burrow in mud in silty backwaters of streams. Adults spawning over gravel riffles in clear freshwater streams	Herbivore, Invertivore, Piscivore	habitat alteration and degradation due to dams, diversions, pollution, channelization, urbanization, and other factors
Lamprey	Pacific lamprey	*Lampetra tridentata*	Fed Co	Yes	No	M	Yes	3	3	3	9	G5	S2	7	No	MC	Statewide		shallow backwater and eddy areas along edges of streams in mud, silt and sand;	spawn in runs and riffles in rock-, sand-, or gravel-bottomed clear streams, in shallow depressions, or crude nests, 2 inches deep and 4-5 inches in diameter, at the heads of riffles	Herbivore, Invertivore, Piscavore	obstructions (i.e., dams) that prevent spawning migration of adults and cause habitat degradation of spawning and larval rearing areas
Marine Birds	Clark's grebe	*Aechmophorus clarkii*	None	Yes	No	L	Yes	2	2	2	6	G5	S2 Breeding			E, R, L						

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Marine Birds	Marbled murrelet	*Brachyramphus marmoratus*	Fed T, State T	Yes	Yes	H	Yes	3	1	1	5	G3, G4	S3	6	No	E, T, MC, L, R	N Puget Sound, Coastal	Any occurrence in suitable habitat during breeding season, regular and regular large concentrations	Coastal areas, mainly in salt water within 2 km of shore, including bays and sounds; not uncommon up to 5 km offshore; occasionally also on rivers and lakes usually within 20 km of ocean, especially during breeding season	Old growth	Herbivore, Invertivore	harvest of old-growth & mature coastal coniferous forest; offshore oil spills and marine pollutants; gill net fisheries including entanglement, displacement from foraging areas, aquaculture (contamination by antibiotics/antifoulants, alteration of local food supplies due to decomposition of fish food and fish excretement)
Marine Birds	Tufted puffin	*Fratercula cirrhata*	Fed C, State C	Yes	No	H	Yes	3	1	1	5	G5	S3, S4	No	Yes	MP	N Puget Sound, Coastal	Regular concentrations, breeding areas	Primarily pelagic.	Nests on offshore islands or along the coast in ground burrows, sometimes under boulders and piles of rocks, occasionally under dense vegetation; also recorded nesting in sandy estuarine islands along north-central Alaska Peninsula . May nest in association with murres, cormorants, auklets, gulls	Invertivore, Piscavore	Alaskan colonies probably have been devastated by introduced foxes (Lensink 1984). Present low numbers in California possibly are due to oil pollution and/or crash in the sardine population
Marine Birds	Common loons	*Gavia immer*	State S	Yes	No	M	Yes	3	3	3	9	G5	S2	3	Yes	E, T, MC, L	State-wide	Breeding sites, regular and regular large concentrations	NON-BREEDING: Inland lakes and rivers and coastal waters during migration. Most nonbreeding subadults apparently remain in coastal areas during breeding season. Winter primarily in coastal marine habitats, including bays, coves, channels, inlets and other shallow areas	BREEDING: Lakes containing both shallow and deep water areas (McIntyre 1975, 1988; Strong 1985). Water clarity is an important component of breeding habitat selection. Loons are visual predators and generally need clear visibility to at least three to four m.	Piscavore	Habitat loss & degradation; human disturnbance and hunting; entanglement in fishing line/nets; Organochlorines, Methylmercury; predation
Marine Birds	American white pelican	*Pelecanus erythrorhynchos*	State E	Yes	Yes	H	Yes	3	2	2	7	G3	S1	No	No	E, T, MW, L, R	Eastern, North Central, South Central, Southwest	Breeding areas, regular and regular large concentrations	Rivers, lakes, reservoirs, estuaries, bays, marshes; sometimes inshore marine habitats. Rests on islands and peninsulas.	Nests usually on islands or peninsulas in brackish or freshwater lakes, isolated from mammalian predators.	Piscivore	Breeding colonies have low tolerance to disturbance and are highly susceptible to predation; susceptible to pesticide contamination; also threatened by loss of breeding and feeding areas
Marine Birds	Brown pelican	*Pelecanus occidentalis*	Fed E, State E	Yes	Yes	H	Yes	3	3	3	9	G4	S3	No	No	MC	Coastal	Regular concentrations in foraging and resting areas	Mainly coastal, rarely seen inland or far out at sea. Feeds mostly in shallow estuarine waters, less often up to 40 miles from shore. Makes extensive use of sand spits, offshore sand bars, and islets for nocturnal roosting and daily loafing, especially by nonbreeders and during the non-nesting season.	sand spits, offshore sand bars, and islets for nocturnal roosting; coastal islands for breeding	Piscavore	chemical/pesticide pollution, disturbance of nesting birds by humans, declining fish (food) populations, increased turbidity , entanglement in fishing gear
Marine Birds	Brandt's cormorant	*Phalacrocorax penicillatus*	State C	Yes	No	M	Yes	3	3	3	9	G5	S3	No	No	MC	N Puget Sound, Southwest, Coastal	Breeding areas, regular and regular large concentrations	Mainly inshore coastal zone, especially in areas having kelp beds; also around some offshore islands; less commonly, inshore on brackish bays; in winter, mostly around sheltered inlets and other quiet waters.	Typically nests on flat or gently sloping surfaces on tops of rocky islands along coast, favoring protected leeward sides of islands; frequently nests with other sea birds; may sometimes use wider ledges of mainland cliffs. Nest is built on ground by both sexes, may be re-used in subsequent year	Invertivore, Piscavore	Pesticides, disturbance, competition
Marine Birds	Eared grebe	*Podiceps nigricollis*	None	Yes	No	L	Yes	2	2	2	6	G5	S2breeding, S4Non-breeding	No	No	MC, E, L	Coastal, Esatern				Invertivore	
Marine Birds	Cassin's auklet	*Ptychoramphus aleuticus*	Fed Co, State C	Yes	No	M	Yes	3	1	1	5	G4	S3	No	No	MP	Coastal	Breeding areas	Nonbreeding -mostly pelagic, less frequently along rocky seacoasts	Nests on offshore islands, mostly in areas with low vegetation, on both flat and sloping terrain. Nests in burrow dug in ground or under rock; sometimes among driftwood or debris; usually uses same site in successive years.	Invertivore	Introduced arctic foxes; Raccoon predation; oceanographic changes and declines in zooplankton populations; livestock grazing causes burrow destruction and erosion in colonies.
Marine Birds	Common murre	*Uria aalge*	State C	Yes	No	M	Yes	3	2	1	6	G5	S4	No	No	MP	N Puget Sound, Coastal	Breeding areas, regular and regular large concentrations	Nonbreeding: pelagic and along rocky seacoasts.	Nests in the open or in crevices on broad and narrow cliff ledges, on stack (cliff) tops, and on flat, rocky, low-lying islands; less commonly nests under boulders or in caves	Invertivore, Piscavore	increased sea surface temperatures, oil spills, gill-net mortality, and/or U.S. Navy practice bombing
Marine Mammals	Black right whale	*Balaena glacialis*	Fed E, State E	Possible	Yes	H	Yes	3	1	1	5	G2	SH	No	No	MP	Unknown		Continental shelf		Insectivore	collisions with ships and entanglement in fishing gear, degradation of feeding habitat (e.g., through effects of pollution on zooplankton), human disturbance; sound

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Marine Mammals	Right whale	*Balaena glacialis incl. australis*	Fed E	Possible	Yes	H	Yes	3	1	1	5	G4, G5	S1S2	No	No	MP	Unknown		contenental shelf	Warmer waters	Invertivore	collisions with ships and entanglement in fishing gear, degradation of feeding habitat (e.g., through effects of pollution on zooplankton), human disturbance; sound
Marine Mammals	Bowhead whale	*Balaena mysticetus*	Fed E	Possible	Yes	H	Yes	3	1	1	5	G2	S1	No	No	MP	Alaska and Hawaii		Ice packs	Artic	Invertivore	activities and possible oil spills associated with industrial/resource development are a concern; sound
Marine Mammals	Blue whale	*Balaenoptera musculus*	Fed E, State E	Possible	Yes	H	Yes	3	1	1	5	G2	S1, S2	No	No	MP	Unknown		Pelagic	Pelagic and coastal waters	Insectivore	food-chain alterations resulting from commercial fishing/whaling (J. Barlow, pers. comm., 1995). There is concern among some biologists that underwater sound waves
Marine Mammals	Northern sea otter	*Enhydra lutris kenyoni*	Fed Co	Yes	No	M	Yes	3	2	3	8	G3G4	SU	No	N Right whale	MC	Western WA		kelp beds and abundant shellfish.		Invertivore, Piscavore	commercial fisheries (gill and trammel nets, crab traps) and activities associated with oil and gas exploration, development, and transportation
Marine Mammals	Gray whale	*Eschrichtius robustus*	Fed E, State S	Possible (Accidental)	Yes	H	Yes	3	1	1	5	G3, G4	SZ	No	No	MP	N Puget Sound, COastal	Any occurrence, migration routes	Transient - coastal shelf			
Marine Mammals	Steller sea-lion	*Eumetopias jubatus*	Fed E, State T	Possible (Accidental)	Yes	H	Yes	3	2	1	6	G1	SU	1	No	MC	N Puget Sound, Coastal	Haulout areas	Nearshore coastal waters	beaches of remote islands with difficult access for humans and other mammalian predators	Invertivore, Piscavore	reduced food availability, incidental take and intentional kills during commercial fish harvests, entanglement in marine debris, pollution
Marine Mammals	Killer whale	*Orcinus orca*	State C	Yes	No	M	Yes	3	2	1	6	G3, G4	SZ	No	Yes	MP, MC	N Puget Sound, Coastal	Regular concentrations in feeding areas or migration routes	Coastal waters		Carnivore, Piscavore	
Minnows	Leopard dace	*Rhinichthys falcatus*	State C	Yes	No	M	Yes	3	3	3	9	G4	S2, S3	No	No	L, R, S	Eastern, North Central, South Central, Southwest	Any occurrence	Flowing pools and gravel runs of creeks and small to medium rivers; rocky margins of lakes; slow-moving current	spawn in riffles.	Invertivore	
Minnows	Umatilla dace	*Rhinichthys umatilla*	State C	Yes	No	M	Yes	3	3	3	9	G1	S1	No	No	R	Eastern, North Central, South Central,	Any occurrence	Prefers a riverine habitat with cobble or stone bottom and relatively warm, productive waters. Much of the original habitats of the Umatilla Dace on the Columbia River are now dammed.	cobbles and larger stones where the current is fast enough to prevent siltation at depths less than 1 m	Herbivore, Invertivore	Small populations are vulnerable to pollution and habitat alteration (especially dam construction
Perching Birds	Purple martin	*Progne subis*	State C	Yes	No	M	Yes	2	2	2	6	G5	S3	No	Yes	E, T, MW, L, P, FW	N Puget Sound, Southwest, Coastal	Breeding areas, including used artificial nest features, feeding areas	A wide variety of open and partly open situations, frequently near water or around towns		Invertivore	Loss of nesting habitat
Plant	Water howellia	*Howellia aquatilis*	Fed T	Yes	Yes	H	Yes	3	2	2	7	G3	S2, S3	No	No	L	Statewide		pothole ponds or the quiet water of abandoned river oxbow sloughs	vernal wetlands with consolidated bottoms, shallow, low-elevation glacial ponds; former river oxbows with margins of deciduous trees and shrubs		Loss of habitat
Plant	Water lobelia	*Lobelia dortmanna*	State T	Yes	Yes	M	Yes	3	3	3	9	G4, G5	S2			L	western Washington				emergent, submersed	
Plant	Kalm's lobelia	*Lobelia kalmii*	State E	Yes	Yes	M	Yes	3	3	3	9	G2	SU		emergent	L, FW						
Plant	Pygmy water-lily	*Nymphaea tetragona*	Extripated	Yes		L	Yes	3	3	3	9	G5	SH			L	Whatcom County			remote ponds and streams	floating leaved	logging, siltation, nutrient loading, and eutrophication. Also threatening is succession and competition with emergent vegetation
Plant	Persistentsepal yellowcress	*Rorippa calycina*	State T	Yes	Yes	M	Yes	3	3	3	9	G3	S2			R	Columbia River		river banks		submersed, riparian	water level or availability; habitat destruction; cattle trampling and grazing; interspecific competition
Plant	Columbia yellow-cress	*Rorippa columbiae*	Fed Co	Yes	No	M	Yes	2	2	1	5	G3	S1S2	No	No	L, FW	Statewide		meadows, lakeshores, swamps, roadside ditches	all types of water bodies which may be dry for extended periods of time; usually found in open, high light habitats, with low vegetative cover; grows on a wide variety of soil types including clay, sand, gravel, sandy silt, cobblestones and rocks.		low water level or availability, habitat destruction, cattle trampling and grazing, interspecific competition.
Rockfish	Brown rockfish	*Sebastes auriculatus*	State C	Yes	No	M	Yes	3	3	3	9			No	No	MC	N Puget Sound, Coastal	Regular and regular large concentrations	Benthic reefs	hard bottom such as low profile siltstone or sand with algae. They aggregate near rocks, oil platforms, sewer pipes, and even old tires	Piscavore, Planktivore	Fishing gear, season, overharvest, Dredge material disposal/fills; Oil/gas exploration/production; Water intakes & outfalls; Aqauaculture; Fish enhancement structures; Coastal development impacts;

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Rockfish	Copper rockfish	*Sebastes caurinus*	State C	Yes	No	M	Yes	3	3	3	9			No	No	MC	N Puget Sound, Coastal	Regular and regular large concentrations	Benthic reefs	rocky areas or on rock-sand bottoms in shallow water; natural rocky reefs, artificial reefs, and rock piles; typically found directly on the bottom, closely associated with reefs or vegetation	Carnivore	Fishing gear, season, overharvest, Dredge material disposal/fills; Oil/gas exploration/production; Water intakes & outfalls; Aqauaculture; Fish enhancement structures; Coastal development impacts;
Rockfish	Greenstriped rockfish	*Sebastes elongatus*	State C	Yes	No	M	Yes	3	3	3	9	G5	S4	No	No	MC	N Puget Sound, Coastal	Regular and regular large concentrations	Benthc reefs	rocky as well as soft bottoms; associated with both high and low relief reefs	Planktivore, Piscivore	Fishing gear, season, overharvest, Dredge material disposal/fills; Oil/gas exploration/production; Water intakes & outfalls; Aqauaculture; Fish enhancement structures; Coastal development impacts;
Rockfish	Widow rockfish	*Sebastes entomelas*	State C	Yes	No	M	Yes	3	3	3	9			No	No	MC	N Puget Sound, Coastal	Regular and regular large concentrations	Benthic reefs	rocky banks, seamounts, ridges near canyons, headlands, and muddy bottoms near rocks	Carnivore	Fishing gear, season, overharvest, Dredge material disposal/fills; Oil/gas exploration/production; Water intakes & outfalls; Aqauaculture; Fish enhancement structures; Coastal development impacts;
Rockfish	Yellowtail rockfish	*Sebastes flavidus*	State C	Yes	No	M	Yes	3	3	3	9	G4	S3	No	No	MC	N Puget Sound, Coastal	Regular and regular large concentrations	Benthic reefs	steeply sloping shores or above rocky reefs [114]. They can be found above mud with cobble, boulder and rock ridges, and sand habitats; they are not, however, found on mud, mud with boulder, or flat rock	Carnivore	Fishing gear, season, overharvest, Dredge material disposal/fills; Oil/gas exploration/production; Water intakes & outfalls; Aqauaculture; Fish enhancement structures; Coastal development impacts;
Rockfish	Quillback rockfish	*Sebastes maliger*	State C	Yes	No	M	Yes	3	3	3	9	GU	SU	No	No	MC	N Puget Sound, Coastal	Regular and regular large concentrations	Benthic reefs	rocks or sometimes on coarse sand or pebbles next to reefs, particularly in areas with a lot of flat-bladed kelp; found perched on rock or kelp or wedged into crevices and holes	Planktivore, Piscavore, Invertivore	Fishing gear, season, overharvest, Dredge material disposal/fills; Oil/gas exploration/production; Water intakes & outfalls; Aqauaculture; Fish enhancement structures; Coastal development impacts;
Rockfish	Black rockfish	*Sebastes melanops*	State C	Yes	No	M	Yes	3	3	3	9			No	No	MC	N Puget Sound, Coastal	Regular and regular large concentrations	Benthic reefs	rocky bottoms associated with algae	Piscivore, Planktivore	Fishing gear, season, overharvest, Dredge material disposal/fills; Oil/gas exploration/production; Water intakes & outfalls; Aqauaculture; Fish enhancement structures; Coastal development impacts;
Rockfish	China rockfish	*Sebastes nebulosus*	State C	Yes	No	M	Yes	3	3	3	9			No	No	MC	N Puget Sound, Coastal	Any occurrence	Benthic reefs	among rocks and reefs. They spend virtually all their time sitting on the bottom, often sheltering in crevices; sedentary, probably a territorial species	Invertivore	Fishing gear, season, overharvest, Dredge material disposal/fills; Oil/gas exploration/production; Water intakes & outfalls; Aqauaculture; Fish enhancement structures; Coastal development impacts;
Rockfish	Tiger rockfish	*Sebastes nigrocinctus*	State C	Yes	No	M	Yes	3	3	3	9	G4	S2	No	No	MC	N Puget Sound, Coastal	Any occurrence	Benthic reefs	found in caves along undersea cliffs or on the sea floor, generally in high relief areas with strong currents	Invertivore, Piscavore	Fishing gear, season, overharvest, Dredge material disposal/fills; Oil/gas exploration/production; Water intakes & outfalls; Aqauaculture; Fish enhancement structures; Coastal development impacts;
Rockfish	Bocaccio rockfish	*Sebastes paucispinis*	State C	Yes	No	M	Yes	3	3	3	9	G5		No	No	MC	N Puget Sound, Coastal	Regular and regular large concentrations	Benthic reefs	rocky bottoms associated with algae	Piscavore, Planktivore	Fishing gear, season, overharvest, Dredge material disposal/fills; Oil/gas exploration/production; Water intakes & outfalls; Aqauaculture; Fish enhancement structures; Coastal development impacts;
Rockfish	Canary rockfish	*Sebastes pinniger*	State C	Yes	No	M	Yes	3	3	3	9			No	No	MC	N Puget Sound, Coastal	Regular and regular large concentrations	Benthic reefs	associated with pinnacles and sharp drop-offs	Planktivore	Fishing gear, season, overharvest, Dredge material disposal/fills; Oil/gas exploration/production; Water intakes & outfalls; Aqauaculture; Fish enhancement structures; Coastal development impacts;

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Rockfish	Redstripe rockfish	*Sebastes proriger*	State C	Yes	No	M	Yes	3	3	3	9	G5	S3, S4	No	No	MC	N Puget Sound, Coastal	Regular and regular large concentrations	Benthic reefs	slightly off the bottom (one meter or so) over both high and low relief rocky areas	Planktivore, Piscivore	Fishing gear, season, overharvest, Dredge material disposal/fills; Oil/gas exploration/production; Water intakes & outfalls; Aqauaculture; Fish enhancement structures; Coastal development impacts;
Rockfish	Yelloweye rockfish	*Sebastes ruberrimus*	State C	Yes	No	M	Yes	3	3	3	9	G4	SU	No	No	MC	N Puget Sound, Coastal	Any occurrence	Benthic reefs	cobble, continuous rock, broken rock, and boulder habitats; refuge improtant for presence; juveniles prefer shallow-zone broken-rock habitat	Carnivore	Fishing gear, season, overharvest, Dredge material disposal/fills; Oil/gas exploration/production; Water intakes & outfalls; Aqauaculture; Fish enhancement structures; Coastal development impacts;
Sculpins	Margined sculpin	*Cottus marginatus*	Fed C, State S	Yes		H	Yes	3	3	3	9	G3	S2		No	R, S	Eastern	Any occurrence	High current creeks, medium rivers in riffles; rapid currents with rubble.gravel substrate		Invertivore	
Shorebirds	Western snowy plover	*Charadrius alexandrinus nivosus*	Fed T, State E	Yes	Yes	H	Yes	3	2	2	7	G4	S1	No	No	E, T, MC, L, R	Coastal	Breeding areas	Beaches, dry mud or salt flats, sandy shores of rivers, lakes, and ponds.	Nests on the ground on broad open beaches or salt or dry mud flats, where vegetation is sparse or absent (small clumps of vegetation are used for cover by chicks); nests beside or under object or in open. Nests often are subject to flooding.	Invertivore	human disturbance of nest sites; habitat lost to development, introduced beach grass limits the amount of nesting habitat
Smelt	Eulachon	*Thaleichthys pacificus*	State C	Yes	No	M	Yes	3	2	2	7	G3	S1?	No	No	MC, T	N Puget Sound, Southwest, Coastal	Regular concentrations	Nearshore coastal inlets	Spawns in coastal freshwater streams over bottoms of sand or pea gravel, seldom more than a few miles inland	Invertivore	
Stoneflies	Fender's soliperlan stonefly	*Soliperla fenderi*	Fed Co	Yes	No	M	Yes	3	3	3	9	G2	S1, S2	1	Yes	S, P	Western WA		Rapidly flowing water, gravel/cobble substrate	Spring fed seeps	grazer?	Loss of habitat
Sturgeon	Green sturgeon	*Acipenser medirostris*		Possible - research																		
Sturgeon	White sturgeon	*Acipenser transmontanus*	Fed E	Yes	Yes	H	Yes	3	3	3	9	G4	S2	No	No	R	State-wide	Any occurrence	M4arine near shore, large cool rivers or streams;	Reproduces in Columbia River basin. Spawns either over deep gravel riffles or in deep holes with swift currents and rock bottoms	Invertivore, Piscavore	physical and ecological barriers created by dams and their impoundments. Vulnerable to overfishing
Terns	Black tern	*Chlidonias niger*	Fed C, State M	Yes	No	H	Yes	2	3	2	7	G4	S4	2	Yes	L, R, P, FW	Eastern WA		BREEDING: marshes, along sloughs, rivers, lakeshores, and impoundments, or in wet meadows, typically in sites with mixture of emergent vegetation and open water.		Insectivore, Piscivore	loss of freshwater marsh habitat; Loss of breeding habitat; human disturbance of nesting sites; pesticide;
Trout, Salmon, Whitefish	Coastal Cutthroat	*Oncorhynchus clarki clarki*	Not listed	Yes							0	G4	SU	7	No	L, R			low gradient coastal streams, estuarine habitats; water temperatures below 18 C;	Spawns in streams on clean, small gravel substrates; fry move into larger rivers (or lakes), migrate to sea during their first year	Invertivore, Piscavore	habitat degradation (e.g., resulting from logging) and overfishing; dam passage takes a toll; native stocks have been eroded by introductions of hatchery stock
Trout, Salmon, Whitefish	Westslope cutthroat	*Oncorhynchus clarki lewisi*	Fed Co	Yes	No	M	Yes	3	3	3	9	G4, T3	S?	No	No	L, R, S	State-wide	Any occurrence	None	Small mountain streams, main rivers, and large natural lakes; requires cool, clean, well-oxygenated water	Invertivore	Hybridization with introduced cutthroat and rainbow trout; competition with kokanee, lake whitefish and non-native mysid shrimp; lake trout predation; loss/degradation of habitat from logging, road construction, mining, and grazing; sedimentation and increased water temperature; Sensitive to pollution and generally to siltation of streams; Dams, irrigation diversions, and other migration barriers have negatively affected habitat and probably have interfered with metapopulation dynamics
Trout, Salmon, Whitefish	Pink salmon	*Oncorhynchus gorbuscha*	None	Yes	No	L	Yes	3	3	3	9	G5	S2	No	No	MP, E, T, MC, R	Puget sound			Silt free gravel substrate	Invertivore, Piscivore	habitat damage, mainstem passage problems, and interactions with hatchery fish
Trout, Salmon, Whitefish	Chum salmon	*Oncorhynchus keta*	Fed T, State C	Yes	Yes	H	Yes	3	3	3	9	G5	S3	6	Yes	MP, E, T, MC, R, S	N Puget Sound, Southwest, Coastal	Any occurrence	Spends most of its life (2-7 years) in the ocean.	Spawns in rivers and streams but usually not far from salt water. No freshwater residents or land-locked forms have been reported (in captivity, has been reared to maturity in fresh water). Spawns usually in streams of various sizes where temperature is 12-14 C. Spawning occurs in gravel riffles.	Invertivore, Piscivore	habitat damage, mainstem passage problems, and interactions with hatchery fish

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Trout, Salmon, Whitefish	Coho salmon	*Oncorhynchus kisutch*	Fed T	Yes	Yes	H	Yes	3	3	3	9	G4	S3	6	No	MC, L, R	N Puget Sound, Coastal, Southwest	Any occurrence	Continental shelf, coastal forested streams	Silt free gravel substrate	Invertivore, Piscivore	habitat damage, mainstem passage problems, and interactions with hatchery fish
Trout, Salmon, Whitefish	Steelhead	*Oncorhynchus mykiss*	Fed E, Fed T, State C	Yes	Yes	H	Yes	3	3	3	9	G5	S5	8	No	E, T, L, R, S	State-wide		Capable of surviving in a wide range of temperature conditions. Does best where dissolved oxygen concentration is at least 7 ppm. Anadromous populations occur in coastal rivers. Resident populations now inhabit small headwater streams, large rivers, lakes, or reservoirs; often in cool clear lakes and cool swift streams with silt-free substrate. In streams, deep low velocity pools are important wintering habitats	Usually requires a gravel stream riffle for successful spawning. Lake populations move to tributaries to spawn	Invertivore, Piscivore	habitat damage, mainstem passage problems, and interactions with hatchery fish
Trout, Salmon, Whitefish	Kokanee	*Oncorhynchus nerka*	Fed T, State C	Yes	Yes	H	Yes	3	3	3	9			1	No	L, R	State-wide	Any occurrence		Silt free gravel substrate	Invertivore, Piscivore	habitat damage, mainstem passage problems, and interactions with hatchery fish
Trout, Salmon, Whitefish	Sockeye salmon	*Oncorhynchus nerka*	Fed E, State C	Yes	Yes	H	Yes	3	3	3	9	G5	S2,S3	3	No	MP, E, T, MC, R, L	State-wide	Any occurrence	adult oceanic in nutrient-rich waters of Alaska and the arctic; kokanee do best in high, cold, large mountain lakes, where a well-oxygenated stratum is essential. .	Young not often found in estuarine or inshore waters after reaching marine environment; Kokanee usually spawns in tributary stream of lake, often in riffle over gravel substrate; sometimes along gravelly shore of lake where seepage outflows, springs, or wind-induced waves occur. Sockeye moves up coastal rivers and spawns in streams; Water temperatures of ca. 15.5 C lead to significant mortality, especially among young. Silt free gravel substrate	Invertivore, Piscivore	habitat damage, mainstem passage problems, and interactions with hatchery fish
Trout, Salmon, Whitefish	Chinook salmon	*Oncorhynchus tshawytscha*	Fed T, Fed E, State SC	Yes	Yes	H	Yes	3	3	3	9	G5	S3, S4	8	Yes	MP, E, T, MC, R, S	State-wide	Any occurrence	Mainly oceanic.	Spawning - Silt free gravel substrate; Salinity of 8 ppt is the upper limit for the normal development of chinook eggs and alevins; Streams with temperatures near the upper tolerance level (25 c) during spawning migrations may be able to provide habitat for chinook salmon if a patchwork of thermal refugia is present	Invertivore, Piscivore	habitat damage, mainstem passage problems, and interactions with hatchery fish
Trout, Salmon, Whitefish	Pygmy whitefish	*Prosopium coulteri*	State S	Yes	No	L	Yes	3	3	3	9	G5	S2	1	No	L, R	State-wide	Any occurrence	Mountain lakes and streams	lakes and flowing waters of clear or silted rivers of mountainous country; less than 6 m deep; Spawns over course gravel in shallow areas in streams or lakes	Invertivore, Piscavore	
Trout, Salmon, Whitefish	Bull trout/Dolly Varden	*Salvelinus confluentus*	Fed T, State C	Yes	Yes	H	Yes	3	3	3	9	G3	S3	10	No	L, R, S	State-wide	Any occurrence	Bottom of deep pools in cold rivers and large tributary streams, often in moderate to fast currents with gravel riffles; large coldwater lakes and reservoirs	Temperatures of 45-50 F	Carnivore, Invertivore, Piscavore	habitat degradation, passage restrictions at dams, and competition from non-native lake and brook trout
Turtles	Western pond turtle	*Clemmys marmorata*	Fed Co, State E	Yes	Yes	H	Yes	3	3	2	8	G3, G4	S1	3	No	L, R	N Puget Sound, Southwest, Coastal	Any occurrence	Permanent and intermittent waters of rivers, creeks, small lakes and ponds, marshes, irrigation ditches, and reservoirs	Nests on sandy banks near water or sunny spots up to a few hundred meters from water	Carnivore, Piscavore, Invertivore	non-native predators (bullfrogs and bass); alteration, loss, and fragmentation of habitat